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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/535,748	09/27/2005	Joel E White	700355-052696	9053
50828	7590	05/17/2007		
DAVID S. RESNICK 100 SUMMER STREET NIXON PEABODY LLP BOSTON, MA 02110-2131			EXAMINER SKOWRONEK, KARLHEINZ R	
			ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/535,748	Applicant(s) WHITE ET AL.	
	Examiner Karlheinz R. Skowronek	Art Unit 1631	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 February 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) 1-18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 19-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05-20-2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f):
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>5/20/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Applicant's election without traverse of group III (19-27) in the reply filed on 23 February 2007 is acknowledged.

Claims 1-18 withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 23 February 2007.

Claim Status

Claims 1-27 are pending.

Claims 1-18 stand withdrawn as being directed to a non-elected invention.

Claims 19-27 are being examined.

Information Disclosure Statement

The information disclosure statement (IDS) submitted on 20 May 2005 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the examiner has considered the information disclosure statement.

Specification

The use of the trademarks has been noted in this application, numerous instances of CY3, for example in [0178, 0185, 0194, 200, 207, 211, 228] and OLIGREEN [0192, 0194]. It should be capitalized wherever it appears and be accompanied by the generic terminology.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

Claim Objections

The claims are objected to because they include reference characters which are not enclosed within parentheses. Specifically, the reference characters referring to the steps of claims 19, 20, and 26 should not be followed by a period, rather they should be enclosed within parentheses.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 26 and 27 are rejected under 35 U.S.C. 102(e) as being anticipated by Liebholz et al.(US Pat 7,029,852).

The claims are directed to a sensor array system for the remote characterization of a gaseous sample employing a plurality of sensors, a measuring apparatus and a transmitting device. The system is formed by a plurality of measuring apparatuses in communication with transmitting device.

Liebholz et al teach the detection of analytes from air samples (col. 3, line 60-63 and col. 5, line 21-24). Liebholz et al. teach a system in which a plurality of sensors provide a detectable signal when in contact with an analyte (col. 3 line 63 to col.4, line 2). The sensors of Liebholz are arranged in a measuring apparatuses that are in communication with a transmitting device (col. 10 line 49-51). The transmitting device transmits the detectable signal to a computer capable of characterizing the analyte (col. 11, lines 9-20). The system of Liebholz et al is composed of a plurality of sensing apparatuses (figure 8 and 11, line 1-7)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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Claim 19, 20, 21, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liebholz et al.(US Pat 7,029,852), in view of Melker et al.(US PG PUB 2002/0177232).

The claims are drawn to a sensing system comprising a nucleic acid base sensor array; an excitation light source; a detector; a sample chamber; a sampling means; a controller means; and an analyte detection means. In another embodiment, the identification algorithm includes pattern matching and report generation. In another embodiment, the system is remotely controlled.

Liebholz et al. show a sensing system for the detection and identification of analytes in an air sample. The system of Liebholz et al. is composed of a nucleic acid based sensor array formed through the use of multiple nucleic acid aptamers. The aptamers of Liebholz et al. are capable of detecting analytes. Liebholz et al. teach that upon binding of analyte the aptamers produce a detectable signal. The signal is detected by a detector array (col. 4, line 66-67). The sensor array is housed within a sampling chamber that is combined with a sampling means to bring air into contact with the sensor array (col. 5, line 38-48). In figure 8, Liebholz et al. show a microcontroller/control means that is communication with the sampling means. The controller provides an analyte identification algorithm (col. 11, line 9-20). Liebholz et al. show an embodiment in which the system is remotely controlled (figure 8). Liebholz et al. show that a sampling algorithm is employed that opens or closes a trapdoor for a detector (col. 5 line 15-17). Liebholz et al. teach that the activation of the sensor array results a

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in a spatio-temporal response that is processed (col. 5, line 5-12). Liebholz et al. teach a processing system that produces a report.

Liebholz et al. do not teach a pattern matching that is a neural.net

Melker et al. teach the use of neural network for the generation of comparisons between the detected signal and a known pattern [0057].

It would have been obvious to modify the system sensing of Liebholz et al. with the neural network analysis of patterns of Melker et al. because Melker et al. show the neural network have the advantage of enabling the device to understand the significance of sensor array output [0057]. Neural networks are used for self-learning of computational devices

Claims 20, 22 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liebholz et al. (US Pat 7,029,852), in view of Melker et al.(US PG PUB 2002/0177232) as applied to claims 19, 20, 21, and 24 above, and further in view of Sunshine et al. (US pat 6,234,006).

The claims are drawn to a sensing system comprising a nucleic acid base sensor array; an excitation light source; a detector; a sample chamber; a sampling means; a controller means; and an analyte detection means. In another embodiment, the identification algorithm includes pattern matching and report generation. In another embodiment, the system is remotely controlled.

Liebholz et al. show a sensing system for the detection and identification of analytes in an air sample. The system of Liebholz et al. is composed of a nucleic acid

based sensor array formed through the use of multiple nucleic acid aptamers. The aptamers of Liebholz et al. are capable of detecting analytes. Liebholz et al. teach that upon binding of analyte the aptamers produce a detectable signal. The signal is detected by a detector array (col. 4, line 66-67). The sensor array is housed within a sampling chamber that is combined with a sampling means to bring air into contact with the sensor array (col. 5, line 38-48). In figure 8, Liebholz et al. show a microcontroller/control means that is communication with the sampling means. The controller provides an analyte identification algorithm (col. 11, line 9-20). Liebholz et al. show an embodiment in which the system is remotely controlled (figure 8). Liebholz et al. show that a sampling algorithm is employed that opens or closes a trapdoor for a detector (col. 5 line 15-17). Liebholz et al. teach that the activation of the sensor array results a in a spatio-temporal response that is processed (col. 5, line 5-12). Liebholz et al. teach a processing system that produces a report.

Liebholz et al. does not show a sensing system that is specifically attached to a shipping container or that is hand held.

Sunshine et al. shows the application of a sensing system to a shipping container (col.24, line 51-52 and col. 25, line 27-28). Sunshine et al. show a sensing system that is hand held (col. 2, line 60)

It would have been further obvious to modify the sensing system of Liebholz et al. with the portability of a handheld apparatus because Sunshine et al. show that a handheld system provides the advantage of being small and light weight (abstract).

Claims 20 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liebholz et al.(US Pat 7,029,852), in view of Melker et al.(US PG PUB 2002/0177232) as applied to claims 19, 20, 21, and 24 above, and further in view of Vivekananda (US PG PUB 2004/0023266).

The claims are drawn to a sensing system comprising a nucleic acid base sensor array; an excitation light source; a detector; a sample chamber; a sampling means; a controller means; and an analyte detection means. In another embodiment, the identification algorithm includes pattern matching and report generation. In another embodiment, the system is remotely controlled.

Liebholz et al. show a sensing system for the detection and identification of analytes in an air sample. The system of Liebholz et al. is composed of a nucleic acid based sensor array formed through the use of multiple nucleic acid aptamers. The aptamers of Liebholz et al. are capable of detecting analytes. Liebholz et al. teach that upon binding of analyte the aptamers produce a detectable signal. The signal is detected by a detector array (col. 4, line 66-67). The sensor array is housed within a sampling chamber that is combined with a sampling means to bring air into contact with the sensor array (col. 5, line 38-48). In figure 8, Liebholz et al. show a microcontroller/control means that is communication with the sampling means. The controller provides an analyte identification algorithm (col. 11, line 9-20). Liebholz et al. show an embodiment in which the system is remotely controlled (figure 8). Liebholz et al. show that a sampling algorithm is employed that opens or closes a trapdoor for a detector (col. 5 line 15-17). Liebholz et al. teach that the activation of the sensor array results a

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in a spatio-temporal response that is processed (col. 5, line 5-12). Liebholz et al. teach a processing system that produces a report.

Liebholz et al. does not show a sensing system that is specifically attached to an X-ray screening machine.

Vivekananda et al. teach the system is applied to airport detection systems reading on X-ray screening machine [0029].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the sensing system of Liebholz et al. with the application the sensing system to a shipping container as in Vivekananda et al. because Vivekananda et al. teach the device fulfils the need for a rapid and sensitive method to detect and identify pathogenic spores of anthrax [0010-0011].

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karlheinz R. Skowronek whose telephone number is (571) 272-9047. The examiner can normally be reached on Mon-Fri 8:00am-5:00pm (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ram Shukla can be reached on (571) 272-0735. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Karlheinz R. Skowronek/

John S. Brusca 14 May 2007
JOHN S. BRUSCA, PH.D
PRIMARY EXAMINER